



Isolation and Screening of Marine Bacteria for Industrially important Extracellular Enzymes

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Abstract : A total of 20 Marine Bacteria were isolated from sea water samples of three different Beaches viz Marina, Besant Nagar, Kovalam of Chennai and kanchipuram district, Tamil Nadu, India. Out of 20 Marine Bacteria Eight Bacteria were isolated from Marina Beach sample, 10 Bacteria were isolated from Besant Nagar Beach sample and only 2 Bacteria were isolated from Kovalam Beach sample. Morphology, Growth and colour of the isolated 20 Marine Bacteria were recorded. In Biochemical characters 12 Bacteria were Gram Negative and 8 Bacteria were Gram Positive, All the isolated Marine Bacteria were Motile, 10 Bacteria were Oxidase, Positive and seven Bacteria were Catalase positive. All the 20 Marine Bacteria were screened for five industrially important Extracellular enzymes. Comparative Analysis in three different Beaches (Marina, Besant Nagar, Kovalam) for the production of five industrially important extracellular enzymes like Amylase, Cellulase, Protease, Lipase and Chitinase shows that Besant Nagar isolates shows highest production of Amylase, protease and cellulose followed by Marina Beach isolates. Lipase enzyme was maximum produced in Marina isolates followed by Besant Nagar isolates. Kovalam Beach isolate were not able to utilize the CM-cellulose and Tween 20. Interestingly out of 20 isolates from three different Beaches (RMB1-RMB20) were not able to utilize the chitin substrate and produce chitinase enzyme.

Keywords : Marine Bacteria, Beaches, Extracellular enzymes.

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